A newsletter of the Local Technical Assistance Program (LTAP)

Issue Number 42, Spring 1994

Bulletin

Computer Updates Could Slow You Down

By Larry Mendenhall
Editor, Technology News

Advances in computer hardware and software do not merely happen quickly, they happen like a stampede. Very few computers retain top-of-the-line status for more than one or two years. Each advance in hardware is accompanied by software written to take advantage of the new hardware. If the latest computer model is not sitting on your desk, the software written for advanced hardware can degrade the performance of your machine to the point where you may be tempted to go sharpen your pencils and dust off your calculator. If you find yourself in that position, here are a few suggestions to boost your computer's performance.

More RAM

One of the quickest ways to increase performance is to buy more RAM (random access memory). A computer writes and accesses RAM memory faster than it does the storage memory found on your hard drive. A program writes frequently needed instructions and data to RAM. The more RAM that your machine has, the more information it can store there for quick access. RAM modules, called SIMMS (single in-line memory modules), are installed two at a time. Installing RAM can usually be done by the average user in about 15 to 20 minutes.

Install a Math Co-Processor

If you work with applications that do a lot of math calculations (spreadsheets, databases, some high end graphic and CAD programs), then a math co-processor will improve your machine's performance. Many computers come with a co-processor already installed. If your applications are not written to take advantage of a co-processor, then adding this feature will not improve performance. Most computers using 80486 chips come with co-processors installed. However, you may have to add one to 80386-equipped machines.

Upgrade Your Motherboard

This is a major hardware upgrade for your machine. It involves replacing your old motherboard with a new one. In effect, you have a new computer in your old casing. However, unless you have experience installing computer equipment, you may want a service person to install it for you. Just buying a motherboard may be the least expensive way to get the most improvement into your old computer.

Buy a New Computer

Competition among computer manufacturers has driven prices to very low levels. A top of the line model by a major manufacturer can be purchased for around $3,000. Your old computer may work perfectly well for someone on your staff who just does word processing or simple spreadsheet calculations. So-called out-of-date computers can work well as file servers. In some cases, they also may be relocated to an office that does not have one or a shop that could make use of one. Buying a new computer has other advantages. Current models are usually equipped with higher-capacity hard drives and monitors with higher resolutions.

Just Say No

This may be the most sensible policy. Not every upgrade that comes along is going to significantly boost your productivity. You could end up spending a fortune by buying every upgrade that comes along. Consider buying only major upgrades. Major upgrades to software are usually given a whole version number like 5.0 or 6.0. You may want to wait, however, for a version number like 5.1 or 6.1 since it is not unusual for minor bugs to creep into major upgrades.

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Upgrading either your computer or your software should not be done lightly. As tempting as it is to have the fastest and newest equipment or software, it does not automatically increase productivity. Selectively choosing what you upgrade and when will save you and your organization a lot of money over time. ■

Source: "Iowa's T² Center's Newsletter, "Technology News," December 1993

Public Works and the Human Environment April 19-21, 1995, Seattle

First Call for Papers

The 1995 International Symposium on **Public Works and the Human Environment** sponsored by the American Public Works Association (APWA) Washington State Chapter will be held in Seattle, Washington, April 19- 21, 1995. This three-day international symposium will provide a forum for public works professionals from throughout the world to present their work, exchange information, and increase their understanding and practical treatment of environmental issues which impact public works projects and programs. The Symposium will coincide with the 25th anniversary of Earth Day and recognizes the important role of public works in shaping the human environment.

Authors are invited to submit papers describing their work which focuses on practical applications of public works principles and solutions in addressing future needs. Topics for the sessions include, but are not limited to, the following:

Transportation, Water Resources, Wastewater, Ports, Air Pollution Reduction Systems, Solid Waste Management, Hazardous Waste, Emergency and Disaster Response, Infrastructure Management, Technical Management Systems, Environmental Finance, Public Education and Involvement, Project Management Techniques, Management Practices and Challenges, Organizational Management, Risk Assessment and Loss Prevention Techniques, Human Resource Training and Development, Strategic Planning Techniques, or Complex Projects.

Authors are invited to submit four copies of a one- to two-page abstract for each paper. The abstract should be in English and include a clear description of the work, authors' names, affiliations, addresses, telephone and fax numbers, and an E-mail address if available. Authors should indicate one of the above categories that best describes the topic of the paper. One author should be identified with an asterisk as the contact person. Abstracts will be reviewed for focus and technical content. On acceptance, paper format requirements will be sent to the contact person. Camera-ready papers of eight to ten pages including figures will be published in the Symposium Proceedings. At least one author from each paper should register for the Symposium and present the paper in a technical session.

Abstracts should be mailed to:

APWA Symposium
University of Washington
Engineering Professional Programs
XD-51
3201 Fremont Avenue North
Seattle, WA 98103
USA

Deadline is June 15, 1994, for abstracts. Contact Jan Klippert at (206) 296-6510.

President Signs Seismic Retrofit Bill

President Clinton has signed into law a bill that would allow federal bridge replacement and rehabilitation funds to be used for seismic retrofitting, regardless of whether the bridges are in need of other repairs.

In a statement issued at the bill signing, the President said, "The California earthquake proved that seismic retrofitting works. None of the bridges in the Los Angeles area that were seismically retrofitted failed or suffered major damage as a result of the earthquake. The 12 bridges that were severely damaged during the earthquake had not been fully retrofitted."

Clinton said that the bill would provide an additional tool to the states, and the flexibility to determine their own bridge needs. He added, "S. 1789 will empower States throughout the Nation to make critically important investments in infrastructure to prevent highway bridge collapses. Ultimately it will save both lives and dollars."

The bill does not increase federal funding for bridge rehabilitation, but makes seismic retrofitting eligible even in the absence of other bridge repair requirements. ■

In the News

ASCE to Launch High-Tech Newsletter

You need the latest information on civil engineering technology but you have trouble finding it. ASCE's EMERGING TECHNOLOGY newsletter will solve your problem when it debuts in April. The bi-monthly publication will feature concise descriptions of what is out of the lab, into the field, and ready for commercialization. The newsletter is a joint effort of ASCE and the Civil Engineering Research Foundation. Subscriptions are $80 per year, $40 per year for ASCE members. For more information or to subscribe, call ASCE headquarters, tel. 800/548-ASCE (2723). ■

SCOR Recommends NCHRP Program

The AASHTO Standing Committee on Research (SCOR) met in Washington March 22 and 23, and among other actions developed a recommended research program for the FY 1995 National Cooperative Research Program (NCHRP) totalling some $18.5 million.

The FY 1995 NCHRP research program recommended by the SCOR will now be presented in a ballot to the AASHTO Board of Directors, which has final approval authority.

Included in the recommended FY 1995 program are continuations of some 21 ongoing research projects, and 26 new research projects selected from a total of 168 candidate projects submitted to the NCHRP by the AASHTO member departments, AASHTO committees and the FHWA.

The new research projects cover many subject areas, including several related to the enactment of the ISTEA. The following partial list demonstrates the range of research topics:

- Guidelines for the Selection, Installation, and Maintenance of Highway Safety Features;
- Development and Delivery of the Year 2000 Highway Capacity Manual;
- Quantification of Air Quality Benefits and Costs Resulting from Measures to Reduce Automobile Travel;
- Training for Highway Construction Personnel;
- Cost Effectiveness of Subsurface Pavement Drainage;
- Identification of Vehicular Accident Characteristics and Reporting Systems With Respect to Design Criteria;
- Maintenance Quality Assurance;
- Conversion of AASHTO Publications and Software to Metric Units.

The SCOR will hold its 1995 meeting to consider the NCHRP research agenda on March 21 and 22. ■

National Public Works Week
May 15-21, 1994

100 Years of Public Works Progress

Know the Dangers of Confined Spaces

Confined spaces can be highly dangerous areas. Their hazards are often invisible, fast-working, and difficult to escape. Even empty, well-cleaned spaces can pose risks. Know the dangers of confined spaces so that you can avoid them.

Hard to Enter and Exit

Confined spaces have few or very small openings and are difficult to enter and exit. They are not designed to be work areas, so ventilation is usually poor. Confined spaces can be small, like crawl spaces, bins and manholes, or large, like boilers, storage tanks, and pipelines.

Major Dangers

There are four major dangers in a confined space. First, there may not be enough oxygen to breathe. Chemicals or gases may consume oxygen or displace it. Even if there is enough oxygen when you enter, it can be used up quickly just by your breathing and your work.

Second, fires and explosions can happen more easily in a confined space. Cigarettes, static electricity, sparks, or heat can ignite invisible vapors and gases. Fires and explosions are dangerous in themselves and can also use up oxygen so quickly that they prevent escape.

Third, toxics in the air can harm your respiratory and nervous systems. Often, you cannot see or smell toxics, and by the time you feel their effects, it may be too late.

Last, physical dangers such as entanglement or sinking into loose material, or from moving parts such as agitators or blenders, can suffocate or crush you. Loud noise, intense heat, and falls can also be dangerous.

Tips for Safe Entry and Work

Confined spaces at your work place should be identified to prevent accidental entry, and workers who must enter them should receive special training and obtain an entry permit. If you work in confined spaces, use these precautions:

1 Ask a qualified person to test the air inside for oxygen, flammability, and toxicity. Test high, low, and in corners where gases might collect. Continue to test at frequent intervals while working in the space.

2 Always prepare before entering a confined space. Use the appropriate personal protective equipment (PPE), including the right respirator. Make sure all equipment is tested and grounded. Know the hazards that might exist in the space and how to recognize symptoms of overexposure.

3 Cut off gas, power, steam, or water lines to the space before entering. Follow lockout/tagout procedures to protect against accidental equipment start-up and to alert co-workers.

4 Have at least one trained, equipped buddy outside to rescue you in case of trouble. Decide how to stay in communication so that your buddy knows you are okay.

5 Wear a lifeline and harness in case you require assistance or rescue — a rope is not enough.

6 Remove all potential causes of explosion or fire. Use spark-proof tools and explosion-proof fans, lights, and air movers. Never smoke!

7 Work as fast and safely as possible. Know how to exit the space quickly, without assistance.

8 If a co-worker must be rescued from a confined space, never go in after him or her. A majority of confined-space fatalities are would-be rescuers. Instead, use rescue equipment and call trained rescuers for help.

Play It Safe

Confined spaces can be dangerous areas. But they don't have to be deadly—if you understand the risks and use safety precautions.

If a co-worker needs to be rescued from a confined space, never go in after him or her. A majority of confined space fatalities are would-be rescuers. Instead, use rescue equipment and call trained rescuers for help.

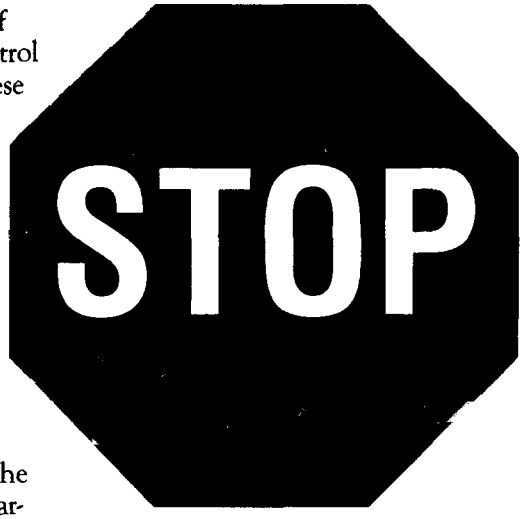
Put A Stop Sign There and Slow Down Traffic — Wrong

by David Whitworth
Safety Engineer, FHWA

Many local and county officials are often pressured by constituents to put STOP signs at intersections where citizens of the neighborhood want to interrupt traffic, either by making the vehicles stop or by making it an inconvenience so that traffic will use more expedient routes. This is a bad practice and will usually create more problems than they solve.

Studies from around the country show that there is a high incidence of intentional violations where the STOP signs are installed as a speed deterrent. These studies showed that speed was reduced in the immediate vicinity of the sign but the speeds were actually higher between intersections than they would have been if the signs had not been there.

When installed correctly, a STOP sign will tell the driver and pedestrian who has the right of way. The Federal Highway Administration's Manual on Uniform Traffic Control Devices contains criteria which must be met in order to justify the installation of STOP signs as well as traffic control signals. Among other things, these criteria consider traffic speed, sight distance, traffic volume, and the frequency of gaps that occur in the traffic that would allow for safe vehicle entry or pedestrian crossing.



Most drivers are reasonable, but when faced with unreasonable restrictions, many violate them and develop contempt for other traffic controls. Not only is this dangerous for the driver but for the responsible agency as well. Unwarranted or substandard traffic control devices contributing to an accident can sometimes be grounds to award a judgment against an agency involved in a lawsuit.

Excerpted from the Mississippi Transportation Technology Update; Vol. 9, No. 4, December, 1993.

Make Use of WSDOT's Library

A Free T² Resource

(206) 705-7750
SCAN 705-7750

FHWA Releases New Part VI of the Manual on Uniform Traffic Control Devices (MUTCD)

By Ed Lagergren, P.E.

Part VI sets forth basic principles and prescribes standards for temporary traffic control zone operations on streets and highways in the United States. The new part VI actually does not contain many changes to the existing part VI. I will detail the most significant changes in this article.

The first obvious changes are the title and size. Part VI is now entitled "Standards and Guides for Traffic Controls for Street and Highway Construction, Maintenance, Utility, and Incident Management Operations." It is 8½ inches by 11 inches, standard paper size. A metric conversion factors table appears on the inside front cover, but the text is still in English units.

Two new traffic control devices are added. The first device, the opposing lane divider, is a delineation device used to separate opposing traffic on a two-lane, two-way operation. The device is an upright orange 12-inch by 18-inch shape with opposing arrows similar to the two-way traffic sign (W6-3). The second device is actually a modification of the STOP/SLOW paddle. The STOP/SLOW may be supplemented by one of two symmetrically positioned alternately flashing white high-intensity lamps on each side for improved conspicuity.

Four new work message signs are added. They are: (1) "Shoulder Drop Off," (2) "Uneven Lanes," (3) "Turn Off Two-Way Radios and Cellular Telephones" (this sign is designed to follow the "Blasting Zone Ahead" sign), and (4) "No Center Line Stripe." These signs are self-explanatory.

The arrow panel display specifications are modified to allow Portable Changeable Message Signs to be used as arrow panel displays.

In summary, FHWA has determined that this action is not a significant regulatory action. This revision of part VI of the MUTCD adds some new, alternate traffic control devices, and only a very limited number of new or changed requirements. Most of the changes include expanded guidance, including many new typical application examples. The FHWA expects the application uniformity will improve at virtually no additional expense to public agencies or to the motoring public.

WSDOT is planning to distribute to the list of MUTCD holders. Additional copies are available for $16 from the Government Printing Office, Superintendent of Documents, Stock No. 050-001-00316-3, Washington, DC 20402, telephone (202) 783-3238.

If you have any questions or a traffic concern, please contact me at (206) 705-7388.

Alert — Traffic Safety Drums

We have been alerted to a potential problem with ballast for traffic safety drums. A specific design of traffic safety drum has a truck tire bead/sidewall collar that slips over the top of the drum and performs as ballast for the drum. The apparent problem is the truck tire bead/sidewall collar or a similar looking collar being used on some drums that are not designed for the collar but are designed for sand or sand bag ballast.

If the traffic safety drums are used in a different manner than they were intended, or differently than their designer intended, they could become more of a hazard than they are a traffic safety item.

Please ensure that your project inspectors are aware of this potential problem. Also, please advise them that contractors are to be allowed to use the traffic safety drums only as recommended by the manufacturer.

The Major Bulletin Articles 1991 to 1994

Subject	Article/Author/Source
#30 Spring 1991	
Recycling	Cold Recycling — Is It For You? (Cornell T^2)
Computer	Keeping Your Computer Alive and Well (Deer)
Management	The Local Agency Whatlines? (King)
Innovations	Innovations (Deer)
Road Safety	Operating Tips: Mitigating Road Hazards (Crommes)
Careers	Traffic Engineering (Crommes)
Planning Data	Impacts of Rail Line Abandonment's (Crommes)
#31 Summer 1991	
Traffic Control	Traffic Circles Reduce Speeds (Oregon T^2 Center)
Vehicle Safety	Riding in the Back of Pick-ups is Dangerous
Vehicle Safety	Train Whistle Ban May Not be a Safe Idea
Vehicle Safety	Motorcycle Safety
Vehicle Safety	Why Truckers' Accidents?
Traffic Control	Neighborhood Traffic Control (Lagergren)
Innovations	Innovations — Miscellaneous Items (Deer)
T^2 Center	Wildcat — A New Look to an Old System (Deer)
T^2 Center	Results of the Spring "Road Shows"
#32 Fall 1991	
Emergency Management	Community Emergency Management (Lokey)
General Information	A Lot of Asphalt
General Information	Metric Conversion
Highway Safety	Highway Safety in the Future (Lagergren)
Innovations	Innovations — Post Pullers, Microbes, Computers (Deer)
Computer	Odds and Ends (Deer)
Public Relations	Tips for Interacting with the Public Successfully (Purdue Road School)
Bike/Pedestrian	FHWA Policy on Bicycle and Pedestrian Safety
Highway Safety	Increase Your Odds (Nowitzki)
Winter Maintenance	Think Snow — Now! (UT T^2)
Equipment	Diesel Antifreeze Tips (WI T^2)
Safety	Ten Commandments for Shop Mechanics (NE T^2)
Research	Update — Local Agency Research Projects (Crommes)

#33 Winter 1991-92

Training	Free/Low Cost Training (Crommes)
Innovations	Bright Ideas Keep Controllers Warm (KS T^2)
Fuel	Fuel Quality and Your Fleet (UC Berkeley T^2 Newsletter)
Innovations	Innovations — Flashing Arrow Board Snowplow Attachment (Deer)
Highway Safety	Breakaway Timber Utility Poles to Receive Coordinated Testing
Health	Bee Sting Kit Recall
Highway Safety	Railroad Crossings (Lagergren)
Metrics	Getting Ready to Use the Metric System (Crommes)
Risk Management	Soft Shoulders May Teach a Hard Lesson (Carstens, Iowa State University)
Research	Update of Local Agency Research (Crommes/Anderson)
T2 Center	Fall Road Shows (Frankmoelle)

#34 Spring 1992

Fuels	Driving Into the Future With Natural Gas (Ing/Hung — Alberta T^2)
SHRP	Accurate Handheld Loop Detector Testing Device Developed (FHWA)
Legislation	Senate Passes Energy Bill (AASHTO)
Health	Are You at Risk for CTS (Parlay)
Health	28 Secrets to Happiness (Washington Wellness)
Highway Safety	Traffic Notes: Signing for Impaired Clearance (Lagergren)

#35 Summer 1992

Computers	Computers Can Affect Worker's Health (Mendenhall, Iowa T^2)
Personal Safety	Standing on Your Own Two Feet (Parley)
Innovations	Glassphalt Demonstration Project (CRAB/WSACE)
Training	A Few Words About Training (Frankmoelle)
WSDOT	Traffic Notes: Traffic and Technical Assistance Throughout WSDOT (Lagergren)
Research	Status of Local Research Projects (Crommes)

#36 Fall 1992

Management	Keeping Up to Date in a Changing World (Crommes)
Research	Roadside Safety Accident Research Needs Being Identified (FHWA)
Traffic Control	Repairing Vandalized Signs (Ohio T2)
Innovation	Milk Cartons Into Barricades (Road and Bridges, 5/91)
General Information	USFS Calls for Proposals for Timber Bridges
General Information	FHWA Proposes Vision Waiver Program (FHWA)
Traffic Control	Fluorescent Pigments in Traffic Control Devices? (FHWA)
T^2	ISTEA News (Crommes)
Personal Safety	Why Chemical Warning Labels? (Parley)
Highway Safety	Roadside Safety: Where Does it Rank on Your List of Priorities? (Penn T^2)
Recycling	Recycling Hits the Road (FHWA)
Traffic Control	Street Name Signs (Lagergren)

#37 Winter 1992/93

Management	Some Road Management Basics: Getting the Most From Your Dollars (Wisconsin T2)
Research	City County Research Projects: Moving Along (Crommes)
Personal Safety	Eye and Face Protection: Safety Goggles (Parlay)
Personal Safety	The Law on Hard Hats (Crommes)
Health	Depression is Serious Business (Parlay)
Computers	Computers in the Workplace (Beckner)
T^2 Center	Use of the T^2 Center's Electronic Bulletin Board
Information	New National Transit Institute (NTI)
Information	Asphalt Rubber (Asphalt Technology News)

#38 Spring 1993

SHRP	SHRP's New Work Zone Safety Devices — The Intrusion Alarm (SHRP's "Product Alert," 7/92)
Planning	DCD's Transportation Element Guidebook (Trip's "Network," Winter 1993)
General Information	Corps of Engineers Restructuring (AASHTO "Journal" December 1992)
Awards	WSDOT Receives Traffic Safety Awards (WSDOT "New," 3/5/93)
Traffic Safety	Sign Clearance Ordinances (Lagergren)
Recycling	Operating Tips: Asphalt Pavement Recycling (Crommes/Montague)
Personnel	Working With Difficult People (Parlay)
General Information	New Bicycle/Pedestrian Manager Available for Questions (Dornfeld)

#39 Summer 1993

Public Relations	Handling Questions and Confrontation (Connecticut Conference of Municipalities)
Personal Safety	Standing by at a Confined Space: Your Role in Safety (Parlay)
Pedestrian Safety	Pedestrian Safety Programs Being Promoted for Nationwide Application (FHWA)
Bridge Design	Bridge Foundation Design Methods to be Reviewed (FHWA)
Traffic Control	Understanding Our Road Signs (Dennis, Texas A&M)
Hazardous Material	Operating Tips: Hazardous Substance Awareness (Michigan T^2)
Public Relations	The Ten Commandments of Political Engineering (Protopapas)
Research	Potential New Use for Sugar Beet Extract (Nevada/Idaho T^2)
Personal Safety	NHTSA Warns of Aerosol Tire Inflators (Idaho T^2)
SHRP	SHRP/FHWA Evaluate Surface Rehabilitation Techniques (North Carolina T^2)

#40 Fall 1993

General Information	Books Change Lives (Crommes)
Metric	Rules for Writing Metric Symbols and Names (Metric Guide for Federal Construction)
Tribal T^2	T^2 Center for American Indians Set Up at EWU
Traffic Control	A New Sign Color for Pedestrian and Bicyclist Safety (FHWA)
General Information	Corporations Join Forces With University of Idaho's Scientists (University of Idaho)
Innovations	Simple Solutions for Repairing Guide Posts (Potter/Russell)
Flagging	Flagging Certification Availability
New Video	New Video Available on the Spirit Lake Memorial Highway

Catalog	PC-TRANS Updates Software Catalog
Humor	When You Don't Ask for Help
Innovations	Launched Soil Nails (Oregon T^2)
Recycling	Recycling Around the World-The Netherlands Leads in D&C Waste Recycling (AASHTO's International Transportation Observer/Virginia T^2)
Personnel	Are You Willing to do Whatever it Takes to Get the Job Done? (Watts, Florida DOT)

#41 Winter 1993/94

Innovations	Advanced Technology Means Safer Roads (WSDOT News)
Management	How to Coach a Winning Team (Louisiana State University)
Training	Call for Applications for the Dwight David Eisenhower Transportation Fellowship Program (Gray)
MUTCD	Washington State Modifications to the MUTCD (Lagergren)
Road Shows	"Road Shows" Enhance Skills (Crommes)
Personnel	Distinguished Service Awards (Crommes)
Training	Training for New County Engineers/Public Works Directors (Wagar)
Regulations	Transportation Planning Regulations Released
Laws	1994 Transportation Appropriations Bill Enacted

Selected References

All of the following can be obtained directly from the source given.

Journal of Management in Engineering (ASCE)

This bimonthly issue from ASCE provides timely articles on management issues confronted by the practicing engineer. Contact ASCE at 1-800-548-ASCE (2723) to subscribe.

Transportation Planning Handbook (ITE)

The Transportation Planning Handbook, a companion publication to ITE's Traffic Engineering Handbook, is a handy stand-alone reference for the transportation professional involved in the broader issues of traffic engineering and transportation planning. Written for both engineering and planning disciplines, the handbook provides a practical guide. 1992, 525 pages, casebound. Contact ITE, 525 School Street SW, Suite 410, Washington, DC, 20024-2797. Telephone (202) 554-8050.

Manual of Traffic Signal Design (ITE)

Covers traffic signal fundamentals, including predesign activities, base plan preparation, operational requirements, signal display, design configuration, and traffic signal controllers and detectors. Offers wiring and cabling specifics; guides readers through preparing contractual documents, explains construction supervision, and details the complex subject of signal timing. By James H. Kell and Iris J. Fullerton. ITE/Prentice-Hall, second edition, 1991. 256 pages. Publ. No. TB-OOSA.

Retaining and Flood Walls (USCOE/ASCE)

Technical Engineering and Design Guides as Adapted from the U.S. Army Corps of Engineers, No. 4.

This volume provides guidance for the design and construction of retaining and flood walls. It is intended for retaining walls which will be subjected to flowing water, submergence, wave action and spray, exposure to chemically contaminated atmosphere, and/or severe climatic conditions. Topics covered in this guide include general design considerations, forces on walls, structure stability, foundation analyses, design and construction details, and causes of unsatisfactory performance. List $44; ASCE member $33.

A Compendium of Articles on Residential Street Traffic Control (ITE)

ITE announces its latest addition to the technical compendium series, A Compendium of Articles on Residential Street Traffic Control (ITE, 1994, 141 pp., Publ. No. PP-044, $20 for members, $30 nonmembers, plus shipping and handling). The compendium contains selected articles published in either ITE Journal or the Compendium of Technical Papers from the ITE International and District Annual Meetings or ITE Mid-Year Conferences. The articles are organized by the following topics: Residential Traffic Control Policies, Geometric Design and Traffic Control Devices for Residential Streets, Effectiveness of Residential Speed Control Programs and Neighborhood Traffic Management Case Studies.

Skills Enhancement Opportunities

The purpose of this column is to inform you of the numerous educational opportunities that exist for Washington State and adjacent states' transportation people. To obtain a brochure of details on the workshops listed, please contact Laurel Gray at the Northwest T² Center (206) 705-7386.

Northwest Technology Transfer Center
(206) 705-7386

- ❒ **T² Center Road Shows.** Began March 15, 1994. Contact George McHaney at (206) 705-7385 or call the T² Center. Road Shows continue through June.
- ❒ **Stream Stability and Scour at Highway Bridges.** June 28-30, 1994, Lacey.
- ❒ **Human Factors: Principles for Highway, Traffic, and Design Engineers.** July 14, 1994, Seattle/Olympia area.
- ❒ **Traffic Management Strategies.** July 27-28, 1994, Seattle/Olympia area.
- ❒ **Techniques of Pavement Rehabilitation.** September 12-15, 1994, Seattle/Olympia area.
- ❒ **Highway Safety Engineering Studies.** October 17-19, 1994, Seattle/Olympia area.

Association of Washington Cities
(206) 753-4137

- ❒ **Forming and Financing LID's.** May 24-25, 1994, Seattle.

Northwest Concrete Pavement Seminar
(206) 943-7732

- ❒ **Northwest Concrete Pavement Short Courses and Seminar.** October 11-14, 1994, Red Lion Columbia River Hotel, Portland. Contact Jean Canfield, Conference Manager, P.O. Box 135, Olympia, WA 98507-0135.

Pacific Lutheran University School of Business Center for Executive Development
(206) 535-7330 Fax (206) 535-7333

- ❒ **Dynamics and Skills of Effective Negotiations.** June 6-7, 1994, Seattle.
- ❒ **Supervisory Survival Skills.** October 18-19, 1994, Tacoma.
- ❒ **Dynamics and Skills of Effective Negotiations.** June 6-7, Seattle Marriott Hotel. $795 with a $50 per person discount for teams of three or more.

American Society of Civil Engineers (ASCE)
1-800-548-2723 or (212) 705-7668
Fax (212) 421-1826

- ❒ **How to Develop an Effective Plan for Receiving Water Impacts from Storm Water and Urban Runoff.** June 27-29, 1994, Seattle. Assessment, risk management, and legal issues. $695 member, $795 non-member.

U.S. Department of Transportation
Dwight David Eisenhower Transportation Fellowship Program
(703) 285-2781 Fax (703) 285-2791

- ❒ **Eisenhower Faculty Fellowship.** There are two remaining review and selection periods in 1994. Deadlines for these reviews are: June 15, 1994 and October 17, 1994.

Fred Pryor Seminars
1-800-255-6139 Fax (913) 722-8585

- ❒ **Management Problems of the Technical Person in a Leadership Role.** May 17, Everett; May 19, Olympia; May 25, Pasco; May 6, Seattle; May 26, Spokane; May 18, Tacoma, May 24, Yakima. $199
- ❒ **How to Develop and Administer a Budget.** May 4, Everett; May 6, Olympia; May 20, Seattle; May 3, Spokane; May 5, Tacoma; May 12, Portland. $199.
- ❒ **Total Quality Management.** June 7, Everett; June 8, Tacoma; June 9, Olympia; June 10, Seattle; June 22, Portland; June 29, Spokane. $195.

American Management Association
1-800-255-4141 or (913) 451-2900

- ❒ **The Basics of Hazardous Materials Management.** June 29, Portland; June 30, Seattle. $139.

American Public Works Association
(206) 543-5539 Fax (206) 543-2352

- ❒ **International Symposium: Public Works and the Human Environment.** April 19-21, 1995 in Seattle.

WSDOT-TRIP Division
(206) 705-7960

- ❒ **Geographic Information Systems for Urban and Regional Transportation.** June 28-30, Seattle. Contact Monica Welle.

Asphalt Institute
(606) 288-4964 Fax (606) 288-4999

- ❒ **SHRP and New Asphalt Pavement Technology.** April 27, 1994. This seminar will acquaint participants with new developments in the areas of: asphalt materials, regulations, additives, mix design, and maintenance practices. Best Western Executive Inn, Seattle. $80.
- ❒ **Protecting Your Parking Lot Investment.** May 9, Seattle. $139. Contact (606) 288-4964.
- ❒ **Specifying Asphalt Parking Lots.** May 10, Seattle. $139. Contact (606) 288-4964.

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Professional Engineering Practice Liaison Program (PEPL)
University of Washington, College of Engineering
(206) 543-5539

- ❒ **Keys to Successful Advancement in Professional Engineering Practice.** March 28 -June 1, 1994, Mondays and Wednesdays 3:30 to 5:20 p.m. Cost: $335.
- ❒ **Allocation of Risk in Construction.** June 2-3, 1994.
- ❒ **Bioremediation Technology for Hazardous Wastes.** June 15-16, 1994.
- ❒ **Groundwater Modeling Using MODFLOW and MODPATH Software: New Interface for Practical Applications.** September 8-9, 1994.
- ❒ **Effective Writing for Technical Professionals.** September 8, 1994.
- ❒ **Stormwater Drainage Facility Inspection and Maintenance Training Program.** September 14 or 19, 1994. (Note: This is a four-day short course to be given either September 14, 15, 21, and 22 or September 19-22.)
- ❒ **Limiting Engineer/Architect Professional Liability Exposure.** September 16, 1994.

TRANSPEED (Transportation Partnership in Engineering Education Development)
(206) 543-5539

- ❒ **Advanced Highway Capacity Analysis for Engineers and Planners.** June 2-3, 1994.
- ❒ **Storm Water Engineering for Transportation Engineers.** June 6-7, 1994, Shoreline Conference Center, Seattle.
- ❒ **Analysis, Evaluation, and Design for Roadway Safety.** June 16-17, 1994, Educational Service District 105, Yakima; June 20-21, 1994, Shoreline Conference Center, Seattle.

Washington State University Conferences and Institutes
Information: (206) 840-4575
To register: 1-800-942-4978 or (509) 335-3530 or Fax (509) 335-0945

- ❒ **Business Process Reengineering for Service and Manufacturing Organizations.** May 24-25, 1994, Wyndham Garden Hotel, Seattle. $895.

County Road Administration Board (CRAB)
(206) 753-5989

- ❒ **Professional Development Seminar.** May 4-6, Yakima, Red Lion. Conducted by Martha Bryan of Bryan and Bryan Associates. Topic is "Creating Excellence by Re-Inventing Your Public Works Department."

Measurement Research Corporation (MRC)
(206) 851-3200 Fax (206) 851-4334

- ❒ **Basic Overview of Pavement Management and Executive Level Training.** June 7, Tacoma; June 8, Vancouver; June 9, Spokane. Free.
- ❒ **Getting Started in PMS.** September 13, 1994. $125.
- ❒ **PMS Budget Analysis.** September 14, 1994. $125.
- ❒ **Project Level Analysis.** September 15, 1994. $125.
- ❒ **NDT and Pavement Design.** November 15-16, 1994. $125.

Law Seminars International
(206) 621-1938 Fax (206) 567-5058
1-800-854-8009

- ❒ **Wetlands 1994 — Federal Changes and Local Challenges.** June 9-10, 1994, Seattle Hilton Hotel, Seattle. $495 or $445 for three or more registrants from the same agency.

Conferences and Meetings

- ❒ **WSAC Summer Convention.** June 14-17, 1994, Hyatt Regency, Bellevue.
- ❒ **Association of Washington Cities (AWC) Annual Convention.** June 14-17, 1994, Spokane.
- ❒ **Sixth International Conference on Low-Volume Roads.** June 25-29, 1994, University of Minneapolis, Minnesota.
- ❒ **1994 International Road Federation Conference.** July 3-7, 1994. Calgary, Alberta, Canada. Anyone interested in presenting a paper is invited to submit an abstract. Deadline for abstracts is June 4, 1994. Please fax to Marc Brazeau at (613) 736-1395. For conference information, write Transportation Association of Canada, 2323 St. Laurent Blvd., Ottawa, Ontario, Canada K1G-4K6. (613) 736-1350.
- ❒ **FHWA Region 10 Planning and Environmental Conference.** August 1994, Portland. Contact Chuck Chappell (206) 753-2119.
- ❒ **Creating Solutions Together — 13th Annual National Minority and Women Business Enterprises, Equal Employment Opportunity and Contract Compliance Conference.** Hosted by the Washington State Department of Transportation. August 28-31, 1994. Seattle Sheraton Hotel & Towers, Seattle. Early registration fee $250. For further information and registration call: (206) 684-7608, TDD (206) 233-1088, Fax (206) 684-8571.
- ❒ **Washington City/County Management Association (WCMA).** August 16-20, Spokane.
- ❒ **APWA.** September 13-16, Pasco.
- ❒ **CEAW.** September 13, Pasco.
- ❒ **6th International Conference on Low-Volume Roads.** June 25-29, 1995, Minneapolis, Minnesota.
- ❒ **Public Private Partners to Develop Needed Infrastructure.** June 3, SeaTac Mariott. Contact Marilyn Hayes (206) 292-9198.

Free Publications

Guidelines for a Good Chip Seal Job

A two-page brief summary of the basic considerations for chip seal work. Adapted by NWT^2 Center from Oklahoma T^2 materials. (100 copies available)

Operator's Daily Maintenance of Motor Graders

A five-page check list for motor grader operators. Adapted by the NWT^2 Center from materials of the Louisiana T^2 program. (100 copies available)

Working With Pesticides

A brief five-page paper providing ten tips on cleaning pesticide soiled clothing, symptoms of pesticide poisoning, and sprayer operation do's and don'ts. (100 copies available)

Traffic Control Devices et. al. and Tort Liability

A series of articles from various T^2 Centers on risk management and liability cases and issues. Seven pages. (100 copies available)

Operating Tips — Flagging

This poster style paper provides a "quick how-to" for flagging. A handy reference and reminder for your flaggers. Prepared by the NWT^2 Center. (1,000 copies available)

State of the Practice — Design and Construction of Asphalt Paving Materials With Crumb Rubber Modifier

FHWA publication number FHWA-SA-92-022 is a comprehensive overview of the terminology, processes, products, and applications of crumb rubber modifier (CRM) technology. (24 copies available)

Local Low Volume Roads and Streets Manual

This well organized manual provides local agencies with basic information on planning, design, construction, and maintenance of local low volume roads and streets. It is easy to use and specific topics may be quickly located. The publication was made possible by the joint efforts of ASCE, FHWA, and the USDA Forest Service and is dated November 1992. (Only 22 copies remain)

W-Beam Guardrail Repair and Maintenance

This brief 33-page booklet was prepared by the Iowa T^2 Center for the FHWA RTAP. Published in 1990. (35 copies available)

The Forgiving Highway

A brief 10-page booklet by FHWA emphasizing the forgiving highway concept. (40 copies available)

Vegetation Control for Safety

A guide for street and highway maintenance personnel by FHWA Office of Safety, this 38-page booklet summarizes the concepts and criteria for increased safety and hence risk reduction. (40 copies available)

Engineer's Pothole Repair Guide, COE

A brief 12-page summary of pothole repairs. (100 copies available)

Improving Guardrail Installations on Local Roads and Streets

FHWA 1986. (26 copies remain)

Geotextile Selection and Installation Manual for Rural Unpaved Roads

FHWA-RT-89-050.
(40 copies available)

Stabilization Design Guide

Phillips 66. (22 copies remain)

Please Help Us Update Our Mailing List

The NWT^2 Center has several mailing lists with a total of more than 3,000 names. It is an awesome task keeping track of all of these names. People leave jobs, change jobs, change addresses, retire; they sometimes do not want to receive our publication (although we cannot imagine why). Some of you would like to add more names from your organization. Here is how you can help. In order to easily change a label, WE HAVE TO HAVE THE OLD LABEL. Our names are sorted by zip code — we must have the old zip to find you. So, would you kindly tear off this back page, or make a photo copy, and mail to us with any changes that you wish to make written by the label. We will get your label updated. If you receive a number of incorrectly addressed mailers, send them ALL back to us with directions on each. If you would like to add names or make comments, use the space below.

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ATTN LAUREL GRAY
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PO BOX 47390
OLYMPIA WA 98504-7390

A newsletter of the Local Technical Assistance Program (LTAP)

Issue Number 42, Spring 1994

Bulletin

The Technology Transfer Center (T^2) Program is a nationwide effort financed jointly by the Federal Highway Administration (FHWA) and individual state departments of transportation. Its purpose is to translate into understandable terms the latest state-of-the-art technologies in the areas of roads, bridges, and public transportation to local highway and transportation personnel.

Any opinions, findings, conclusions, or recommendations presented in this newsletter are those of the authors and do not necessarily reflect the views of WSDOT or FHWA. All references to proprietary items in this publication are not endorsements of any company or product.

Washington State Department of Transportation
Local Programs Division

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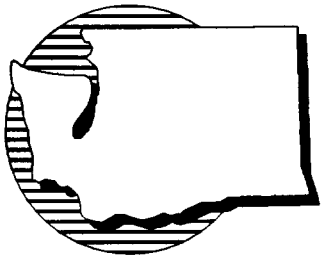
Federal Highway Administration



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